

AUTHOR INDEX

- Abe, T., Kusuhara, N., Katagiri, H., Tomita, T. and Easton, P.A., Differential function of the costal and crural diaphragm during emesis in canines, 183
- Agoris, P., see McLaughlin, G.E., 321
- Ancl, A. and Visschedijk, A.H.J., Respiratory exchanges in the incubated egg of the domestic guinea fowl, 31
- Anderson, J.W., see Nishino, T., 247
- Anderson, J.W., see Sant'Ambrogio, F.B., 237
- Avital, A., Jansen, A.H., Sitar, D.S. and Chernick, V., Influence of prolonged adenosine receptor blockade on fetal sleep and breathing patterns, 227
- Bach, K.B., Lutcavage, M.E. and Mitchell, G.S., Serotonin is necessary for short-term modulation of the exercise ventilatory response, 57
- Bates, J.H.T., see Davey, B.L.K., 165
- Berg, M.M., see McLaughlin, G.E., 321
- Bose, R., see Yu, J., 111
- Brinck-Johnson, T., see Petit, R.D., 271
- Calvert, S.J., Holland, R.A.B. and Hinds, L.A., Blood O₂ transport and Hb types in the embryonic Tammar Wallaby (Marsupialia, *Macropus eugenii*), 99
- Chernick, V., see Avital, A., 227
- Cragoe Jr., E.J., see Yu, J., 111
- Crandall, E.D., see McLaughlin, G.E., 321
- Cunningham, D.A., Himann, J.E., Paterson, D.H. and Dickinson, J.R., Gas exchange dynamics with sinusoidal work in young and elderly women, 43
- Davey, B.L.K. and Bates, J.H.T., Regional lung impedance from forced oscillations through alveolar capsules, 165
- DeFouw, D.O., see Weidner, W.J., 125
- Dickinson, J.R., see Cunningham, D.A., 43
- Durard, J., see Marmy, N., 295
- Easton, P.A., see Abe, T., 183
- Fencel, V. and Leith, D.E., Stewart's quantitative acid-base chemistry: Applications in biology and medicine, 1
- Gagnon, J., see Hill, N.S., 261
- Gobran, S.R., see Schreiner, M.S., 137
- Guia, A., see Yu, J., 111
- Haddad, G.G., see Rosen, C.L., 307
- Hempleman, S.C., see Powell, F.L., 17
- Hill, N.S., see Petit, R.D., 271
- Hill, N.S., Petit, R.D., Gagnon, J., Warburton, R.R. and Ou, L.C., Hematologic responses and the early development of hypoxic pulmonary hypertension in rats, 261
- Himann, J.E., see Cunningham, D.A., 43
- Hinds, L.A., see Calvert, S.J., 99
- Hoffman, E.A., see Schreiner, M.S., 137
- Holland, R.A.B., see Calvert, S.J., 99
- Hussain, S.N.A., see Teitelbaum, J., 195
- Huszcuk, A., Yeh, E., Innes, J.A., Solarte, I., Wasserman, K. and Whipp, B.J., Role of muscle perfusion and baroreception in the hyperpnea following muscle contraction in dog, 207
- Innes, J.A., see Huszcuk, A., 207
- Jansen, A.H., see Avital, A., 227
- Jennings, D.B., see Ohtake, P.J., 335
- Katagiri, H., see Abe, T., 183
- Kepron, W., see Yu, J., 111
- Kim, K.-J., see McLaughlin, G.E., 321
- Kusuhara, N., see Abe, T., 183
- Leith, D.E., see Fencel, V., 1
- Leith, D.E., see Pelletier, N., 83
- Leksell, L.G., see Schreiner, M.S., 137
- Lubman, R.L., see McLaughlin, G.E., 321

- Lutcavage, M.E., see Bach, K.B., 57
- Marmy, N., Mottas, J. and Durand, J., Signal transduction in smooth muscle cells from human airways, 295
- Maxime, V., see Nonnotte, G., 71
- McClure, D.E., see Weidner, W.J., 125
- McLaughlin, G.E., Kim, K.-J., Berg, M.M., Agoris, P., Lubman, R.L. and Crandall, E.D., Measurement of solute fluxes in isolated rat lungs, 321
- Mellins, R.B., see Rosen, C.L., 307
- Mink, S., see Yu, J., 111
- Mitchell, G.S., see Bach, K.B., 57
- Mottas, J., see Marmy, N., 295
- Neufeld, G.R., see Schreiner, M.S., 137
- Nikinmaa, M., Haemoglobin function in intact *Lampetra fluviatilis* erythrocytes, 283
- Nishino, T., see Sant'Ambrogio, F.B., 237
- Nishino, T., Anderson, J.W. and Sant'Ambrogio, G., Effects of halothane, enflurane, and isoflurane on laryngeal receptors in dogs, 247
- Nonnotte, G., Maxime, V., Truchot, J.P., Williot, P. and Peyraud, C., Respiratory responses to progressive ambient hypoxia in the sturgeon, *Acipenser baeri*, 71
- Ohtake, P.J. and Jennings, D.B., Angiotensin II stimulates respiration in awake dogs and antagonizes baroreceptor inhibition, 335
- Ou, L.C., see Hill, N.S., 261
- Ou, L.C., see Petit, R.D., 271
- Paterson, D.H., see Cunningham, D.A., 43
- Pelletier, N. and Leith, D.E., Cardiac output but not high pulmonary artery pressure varies with FIO_2 in exercising horses, 83
- Petit, R.D., see Hill, N.S., 261
- Petit, R.D., Warburton, R.R., Ou, L.C., Brinck-Johnson, T. and Hill, N.S., Exogenous erythropoietin fails to augment hypoxic pulmonary hypertension in rats, 271
- Peyraud, C., see Nonnotte, G., 71
- Powell, F.L. and Hempleman, S.C., Diffusion limitation in comparative models of gas exchange*, 17
- Rosen, C.L., Schechter, W.S., Mellins, R.B. and Haddad, G.G., Effect of acute hypoxia on metabolism and ventilation in awake piglets, 307
- Sant'Ambrogio, F.B., Anderson, J.W., Nishino, T. and Sant'Ambrogio, G., Effects of halothane and isoflurane in the upper airway of dogs during development, 237
- Sant'Ambrogio, G., see Nishino, T., 247
- Sant'Ambrogio, G., see Sant'Ambrogio, F.B., 237
- Schechter, W.S., see Rosen, C.L., 307
- Scheid, P., see Shams, H., 155
- Scherer, P.W., see Schreiner, M.S., 137
- Schreiner, M.S., Leksell, L.G., Gobran, S.R., Hoffman, E.A., Scherer, P.W. and Neufeld, G.R., Microemboli reduce phase III slopes of CO_2 and invert phase III slopes of infused SF_6 , 137
- Selna, L.A., see Weidner, W.J., 125
- Shams, H. and Scheid, P., Effects of hypobaria on parabronchial gas exchange in normoxic and hypoxic ducks, 155
- Sharma, S., see Yu, J., 111
- Sitar, D.S., see Avital, A., 227
- Solarte, I., see Huszczuk, A., 207
- Teitelbaum, J., Vanelli, G. and Hussain, S.N.A., Thin-fiber phrenic afferents mediate the ventilatory response to diaphragmatic ischemia, 195
- Tomita, T., see Abe, T., 183
- Truchot, J.P., see Nonnotte, G., 71
- Vanelli, G., see Teitelbaum, J., 195
- Visschedijk, A.H.J., see Ancel, A., 31
- Warburton, R.R., see Hill, N.S., 261
- Warburton, R.R., see Petit, R.D., 271
- Wasserman, K., see Huszczuk, A., 207
- Weidner, W.J., Selna, L.A., McClure, D.E. and DeFouw, D.O., Effect of extracellular fluid volume expansion on avian lung fluid balance, 125
- Whipp, B.J., see Huszczuk, A., 207
- Williot, P., see Nonnotte, G., 71
- Yeh, E., see Huszczuk, A., 207
- Yu, J., Guia, A., Mink, S., Kepron, W., Cragoe Jr., E.J., Sharma, S. and Bose, R., Role of sodium in antigen-induced contraction of tracheal smooth muscle in dogs, 111

SUBJECT INDEX

- Acid-base
 - angiotensin II, 335
- Acid-base balance
 - red cell pH, oxygen binding, 283
 - Stewart's theory, 1
- Acid base
 - hypoxia, 71
- Age
 - respiratory response, exercise, young vs elderly women, 43
- Agnathans
 - lamprey (*Lampetra fluviatilis*), 283
- Airflow
 - pattern, parabronchial lung, 155
- Airway resistance
 - Na⁺ flux, antigen, 111
- Airway
 - smooth muscle, signal transduction, 295
- Airways
 - resistance, forced oscillations, 165
- Alveolar epithelium
 - solute flux, 321
- Alveolar gas exchange
 - models, diffusion limitation, 17
- Anesthetics
 - volatile, ventilatory depression, 237, 247
- Anions
 - gap, 1
- Baroreception
 - exercise hyperpnea, 207
- Baroreceptors
 - angiotensin II, 335
- Birds
 - chicken, 125
 - duck, 155
 - guinea fowl, 31
- Blood
 - hemoglobin, types, O₂ transport, 99
- Bohr effect
 - lamprey hemoglobin, 283
- Bronchi
 - sensitized, Na⁺ transport, 111
- Conductance
 - gas, egg shell, 31
- Control of breathing
 - adenosine, fetal breathing (sheep), 227
 - exercise hyperpnea, muscle perfusion, baroreception, 207
 - exercise, sinusoidal forcing, 43
 - hypoxia, 71
 - hypoxia, developing piglet, 307
 - laryngeal anesthesia, ventilatory depression, 237, 247
 - phrenic afferents, 195
 - ventilatory CO₂ response, angiotensin II, 335
- Cutaneous gas exchange
 - 17
- Dead space, exercise ventilation, serotonin, 57
- Dead space
 - pulmonary embolization, 137
- Development
 - dog, laryngeal receptors, 237
 - gas exchange, egg shell, 31
 - hemoglobin, 99
 - hypoxia, ventilation (piglet), 307
- Diaphragm
 - vomiting, differential recruitment, 183
- Diffusion
 - limitation, air capillaries, parabronchi, 155
 - limitation, vertebrate external gas exchange, 17
- Edema
 - pulmonary (chicken), 125
- Egg
 - bird, gas exchange, 31
- Elastance
 - lung, forced oscillations, 165
- EMG
 - diaphragm, 183

- Erythropoietin
pulmonary hypertension, 271
- Exercise
hyperpnea, muscle perfusion, baroreception, 207
hypoxic pulmonary vasoconstriction (horse), 83
sinusoidal forcing, respiration, heart rate, 43
ventilation, serotonin, 57
- Expirogram
CO₂, 137
- Fetal
sleep, breathing (sheep), 227
- Fish
sturgeon (*Acipenser baeri*), 71
- Flux
solute, ion, alveolar epithelium, 321
- Forced oscillations
alveolar capsules, lung impedance, elastance, 165
- Gas exchange
exercise, sinusoidal forcing, 43
pulmonary embolization, 137
- Gas mixing
intrapulmonary, 137
- Heart rate
exercise, 43
- Hemoglobin
affinity, red cell pH, 283
types, O₂ transport, 99
- Hypertension
pulmonary, 261
pulmonary, polycythemia, 271
- Hypoxia
hypobaric vs normobaric, 155
respiration, acid base, 71
right ventricular hypertrophy, 261
ventilation, developing piglet, 307
- Hypoxic pulmonary vasoconstriction
horse, 83
- Impedance
lung, forced oscillations, 165
- Ion
flux, alveolar epithelium, 321
- Ions
strong ion difference, 1
- Ion transport
Na⁺, sensitized airways, 111
- Larynx
receptors, 237, 247
- Lung fluid
extracellular volume, fluid balance, 125
- Mammals
dog, 111, 165, 183, 195, 207, 247, 335
dog, newborn, 237
goat, 137, 57
horse, 83
human, 295
humans, 43
piglet, 307
rat, 261, 271, 321
sheep (fetal), 227
- Marsupials
Tammam Wallaby, 99
- Mechanics of breathing
lung impedance, 165
- Mediators
angiotensin II, 335
arginine vasopressin, 335
carbachol, histamine, inositol phosphates, neurokinin A, prostaglandins, 295
serotonin, 57
- Membrane transport
ions, acid-base balance, 1
- Models
external gas exchange, vertebrates, 17
- Muscle
receptors, exercise hyperpnea, 207
- O₂ equilibrium
hemoglobin, 99
- Parabronchial gas exchange
17
- Pharmacological agents, amiloride, airways, 111
- Pharmacological agents
capsaicin, 195
methysergide maleate, 57
p-chlorophenylalanine, 57
theophylline, xanthine, 227
- Phrenic nerve
afferents, diaphragmatic ischemia, ventilation, 195
- Pressure
pulmonary artery, hypoxia, 83
- Pulmonary blood flow
embolization, 137

Pulmonary circulation
hypertension (horse), 83

Receptors
laryngeal, anesthetics, 247
laryngeal, volatile anesthetics, 237

Red cells
pH, oxygen binding, 283

Respiratory muscles
diaphragm, 183
diaphragm, ischemia, ventilatory response, 195

Sleep
fetal breathing, 227

Smooth muscle
airway, signal transduction, 295

Ventricle
right, hypertension, hypoxia, 271
right, hypertrophy, hypoxia, 261

Vomiting
diaphragm, 183